

REMARKS/ARGUMENTS

Prior to entry of the present Amendment, claims 1-20 were pending. In the present Amendment, claim 1 is amended, claims 4-5, 9 and 20 are withdrawn, and claim 16 is cancelled without prejudice. No new matter is added.

Prior Art Rejections

The Examiner rejected claims 1, 8, 10-11, 13 and 18 under 35 U.S.C. §102(b) as being anticipated by Japanese Patent Document No. JP60-237230 (“Ooya Ikuo”) and claims 1-3, 6-7, 12, 14-16 and 19 as being anticipated by U.S. Patent No. 2,500,175 (“Guthrie”). The Examiner rejected claim 17 under 35 U.S.C. §103 as being obvious over Guthrie in view of U.S. Patent No. 4,156,817 (“Preece”). Reconsideration of the rejections is respectfully requested.

Independent Claim 1

Independent claim 1 has been amended to include the subject matter of dependent claim 16. Amended independent claim 1 defines a device (10) for maintaining the position of a rotatably or displaceably mounted shaft (11) having a surface (44), wherein a gripping body (26) is arranged around the shaft (11), and said gripping body is impinged upon by a force (54, 56) in order to form a friction closure between the gripping body (26) and the surface (44) of the shaft (11), characterized in that the force (54, 56) for maintaining the position is provided by an actively actuated control member (30, 62, 70, 80) that is connected at least to one end (38, 40, 74) of the gripping body (26). As provided in cancelled claim 16, claim 1 now specifies that the at least two ends (38, 40, 74) are impinged upon in such a way by the force (54, 56) in order to form the friction closure, that a resulting radial force (58) is generated, which twists the shaft (11) against a bearing point (16) of the shaft (11), whereby the shaft (11) is prevented from rotating by means of an additional holding moment.

Claim 1 has also been amended to specify that the shaft (11) is deflected radially with respect to the shaft bearing (16) in order to generate an additional tilting moment of the shaft (11) with respect to the bearing (16) via the lever arm (60). Applicants note that this subject matter is supported by the written description in at least paragraphs [0019] and [0042] of the specification and is shown in at least Figs. 1-2 and 13.

As amended independent claim 1 includes the subject matter of claim 16, Applicants will address the rejection with respect to claim 16. However, Applicants respectfully traverse the Examiner's rejections with respect to independent claim 1 in its previously-presented form.

As discussed above, the Examiner rejected claim 16 as being anticipated by Guthrie. Guthrie discloses a flexible coupling for a step motor. In Guthrie, an armature 11 is rotatably connected to a shaft 12 by helical springs 15. Each spring 15 is connected between the rotating armature 11 and a collar 13 connected to the rotating shaft 12 to prevent sudden accelerations and decelerations of the armature 11 from being transmitted to the shaft 12. The arrangement of the armature 11, the shaft 12 and the springs 15 are supported for rotation relative to the outer case 24 and end plates 25 by antifriction bearings 26.

Guthrie does not teach or suggest, among other things, a device for maintaining the position of a rotatably or displaceably mounted shaft in which at least two ends of the gripping member are impinged upon in such a way by the force in order to form the friction closure, that a resulting radial force is generated, which twists the shaft against a bearing point of the shaft, whereby the shaft is prevented from rotating by means of an additional holding moment. In Guthrie, each helical spring 15 is arranged in a radially symmetrical fashion about the shaft 12 such that, in the event of a twisting of the ends of each spring 15, a resulting overall force which deflects or tilts the shaft 12 radially with respect to the bearing 26 will never be generated. Twisting of the springs 15 results in a force which rotates the shaft 12 and does not and cannot radially deflect or tilt the shaft 12.

Guthrie also does not teach or suggest that the shaft 12 is deflected radially with respect to the bearings 26 in order to generate an additional tilting moment of the shaft 12 with respect to the bearings 26 via a lever arm. Because each helical spring 15 in Guthrie is arranged only between the armature 11 and the sleeve 13 (which is rotatably fixed with the shaft 12) and has no connection whatsoever to the housing (outer case 24 and end plates 25) or to the bearings 26 of the device, it is not possible in any way for a tilting moment with respect to the bearing 26 to be generated by means of the helical spring 15. In Guthrie, the shaft 12 always remains freely rotatable in the housing (outer case 24 and end plates 25) by means of the bearings 26, even if the helical springs 15 are acted on at their ends with large forces.

For at least these independent reasons, Guthrie does not teach or suggest the subject matter defined by amended independent claim 1. Applicants respectfully submit that Ooya Ikuo,

which the Examiner did not rely upon to reject dependent claim 16, also does not teach or suggest the subject matter defined by amended independent claim 1. Accordingly, amended independent claim 1 is allowable.

Dependent claims 2-3, 6-8, 10-15 and 17-19 depend from allowable independent claim 1 and are allowable for at least the same and other independent reasons. As withdrawn claims 4-5, 9 and 20 depend from allowable independent claim 1, Applicants respectfully request rejoinder and allowance of these claims.

CONCLUSION

In view of the foregoing, Applicants respectfully request entry of the present Amendment and allowance of claims 1-15 and 17-20.

If consultation will further prosecution of the application, the undersigned is available for telephone consultation at the below-identified phone number during normal business hours.

Respectfully submitted,

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